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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,707	03/26/2001	Maurice Givens	0107-P02127US0	4614

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PHILADELPHIA, PA 19103-2307

EXAMINER

HAROLD, JEFFEREY F

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 06/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/821,707

Applicant(s)

GIVENS, MAURICE

Examiner

Jefferey F Harold

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. ***Claims 1, 3-10, 12-22, 24-29, and 31-34*** are rejected under 35 U.S.C. 102(e) as being anticipated by Eom (United States Patent 6,625,279).

Regarding **claim 1**, Eom discloses an apparatus and method of estimating echo path delay. In addition, Eom discloses A method of processing telecommunications signals comprising the steps of: transforming an original signal to produce an absolute value of the original signal; transforming a delayed signal to produce an absolute value of the delayed signal; applying a low pass filter to the absolute value of the original signal to provide an original-signal envelope estimate; applying a low pass filter to the absolute value of the delayed signal to provide a delayed-signal envelope estimate; and applying a delay estimation function to the original-signal envelope estimate and the delayed-signal estimate to provide an estimate of the delay between the original signal and the delayed signal, as disclosed at column 4, lines 6-60 and exhibited in figures 1 and 2.

Regarding **claim 3**, Eom disclose everything claimed as applied above (see claim 1), in addition Eom discloses wherein the delay estimation function comprises a correlation function as disclosed at column 4, lines 6-60 and exhibited in figures 1 and 2.

Regarding **claim 4**, Eom disclose everything claimed as applied above (see claim 1), in addition Eom discloses the step of reducing the sampling rate of the original-signal envelope estimate and delayed-signal envelope estimate to provide a reduced original-signal envelope estimate and a reduced delayed-signal envelope estimate as disclosed at column 4, lines 6-60 and exhibited in figures 1 and 2.

Regarding **claim 5**, Eom disclose everything claimed as applied above (see claim 4), in addition Eom discloses wherein the delay estimation function is applied to a subset of the reduced original-signal envelope estimate and a subset of the reduced delayed-signal envelope estimate as disclosed at column 4, lines 6-60 and exhibited in figures 1 and 2.

Regarding **claim 6**, Eom disclose everything claimed as applied above (see claim 5), in addition Eom discloses the step of storing in a first buffer the reduced original-signal envelope estimate and storing in a second buffer the reduced delayed-signal envelope estimate as disclosed at column 4, line 61 through column 5, line 60 and exhibited in figures 1-3.

Regarding **claim 7**, Eom disclose everything claimed as applied above (see claim 6), in addition Eom discloses step of updating the first and second buffers by removing an oldest sample from each buffer and adding a new sample to each buffer,

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thereby providing a continual estimate of the time delay as disclosed at column 4, line 61 through column 5, line 60 and exhibited in figures 1-3.

Regarding **claim 8**, Eom disclose everything claimed as applied above (see claim 6), in addition Eom discloses step of updating the first and second buffers by removing a predetermined number of samples from each buffer and adding a corresponding number of new samples to each buffer, thereby providing a continual estimate of the time delay as disclosed at column 4, line 61 through column 5, line 60 and exhibited in figures 1-3.

Regarding **claim 9**, Eom disclose everything claimed as applied above (see claim 1), in addition Eom discloses wherein the step of applying a delay estimation function comprises estimating a delay associated with an impulse response as disclosed at column 5, line 66 through column 6, line 5 and exhibited in figures 1-3.

Regarding **claims 10, 12-22, 24-29, and 31-34**, Eom discloses everything claimed as disclosed above in the rejection of claims 1 and 3-9. In addition, claims 10, 12-22, 24-29, and 31-34 are interpreted and thus rejected for the reasons set forth above in the rejection of claims 1 and 3-9.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 2, 11, 23, and 30** are rejected under 35 U.S.C. 103(a) as being unpatentable over Eom in view of well know prior art (MPEP 2144.03).

Regarding **claim 2**, Eom disclose everything claimed, as applied above, (see claim 1), however, Eom fails to disclose wherein the delay estimation function comprises an average magnitude difference function. However, the examiner takes official notice of the fact that it was well know in the art to provide wherein the delay estimation function comprises an average magnitude difference function.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Eom by specifically providing wherein the delay estimation function comprises an average magnitude difference function, for the purpose of determining the echo path delay.

Regarding **claims 11, 23 and 30** Eom disclose everything claimed, in addition claims 11, 23 and 30 are interpreted and thus rejected for the reasons set forth above in the rejection of claim 2.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jefferey F Harold whose telephone number is 703-306-5836. The examiner can normally be reached on Monday - Friday 9 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JFH
June 10, 2004

Jefferey F Harold
Examiner
Art Unit 2644